

Problem A. Counting

Time Limit 2000 ms

Problem Statement

How many integers not less than A and not more than B are there?

Constraints

- $1 \leq A \leq 100$
- $1 \leq B \leq 100$
- A and B are integers.

Input

Input is given from Standard Input in the following format:

A B

Output

Print the number of integers not less than A and not more than B .

Sample 1

Input	Output
2 4	3

We have three integers not less than 2 and not more than 4: 2, 3, 4, so we should print 3.

Sample 2

Input	Output
10 100	91

Sample 3

Input	Output
3 2	0

We have no integers not less than 3 and not more than 2, so we should print 0.

Problem B. Water Consumption

Time Limit	500 ms
Code Length Limit	50000 B
OS	Linux

Recently, Chef visited his doctor. The doctor advised Chef to drink **at least** 2000 ml of water each day.

Chef drank X ml of water today. Determine if Chef followed the doctor's advice or not.

Input Format

- The first line contains a single integer T — the number of test cases. Then the test cases follow.
- The first and only line of each test case contains one integer X — the amount of water Chef drank today.

Output Format

For each test case, output **YES** if Chef followed the doctor's advice of drinking at least 2000 ml of water. Otherwise, output **NO**.

You may print each character of the string in uppercase or lowercase (for example, the strings **YES**, **yEs**, **yes**, and **yeS** will all be treated as identical).

Constraints

- $1 \leq T \leq 2000$
- $1 \leq X \leq 4000$

Sample 1

Input	Output
3 2999 1450 2000	YES NO YES

****Test case 1:**** Chef followed the doctor's advice since he drank 2999 ml of water which is $\geq$ 2000 ml.

Test case 2: Chef did not follow the doctor's advice since he drank 1450 ml of water which is $<$ 2000 ml.

Test case 3: Chef followed the doctor's advice since he drank 2000 ml of water which is $\geq$ 2000 ml.

Problem C. X Cubic

Time Limit 1000 ms

Mem Limit 131072 kB

OS Linux

Write a program which calculates the cube of a given integer x .

Input

An integer x is given in a line.

Output

Print the cube of x in a line.

Constraints

- $1 \leq x \leq 100$

Input	Output
2	8
Input	Output
3	27

Problem D. Circle

Time Limit 1000 ms

Mem Limit 131072 kB

OS Linux

Write a program which calculates the area and circumference of a circle for given radius r .

Input

A real number r is given.

Output

Print the area and circumference of the circle in a line. Put a single space between them.

The output should not contain an absolute error greater than 10^{-5} .

Constraints

- $0 < r < 10000$

Input	Output
2	12.566371 12.566371
Input	Output
3	28.274334 18.849556

Problem E. Coloured Orbs

Time Limit 1000 ms

Code Length Limit 50000 B

OS Linux

Chef has R red orbs, B blue orbs and 0 green orbs.

He can buy 1 green orb at the cost of 1 red orb + 1 blue orb. (He needs to give both the red and blue orbs in order to buy).

Initially, Chef has a skill of 0. However each orb that he has at the end, increases his skill by some predetermined quantity.

- 1 red orb increases his skill by 1.
- 1 blue orb increases his skill by 2.
- 1 green orb increases his skill by 5.

Find the maximum skill that Chef can obtain doing trades wisely.

Input Format

- The first and only line of input contains 2 integers - R and B , the number of red and blue orbs.

Output Format

Output the maximum skill Chef can obtain

Constraints

- $1 \leq R, B \leq 10$

Sample 1

Input	Output
3 4	17

Chef can trade 3 red and blue orbs, for 3 green orbs. He will be left with 3 green orbs, and 1 blue orb. His total skill be $3 \cdot 5 + 2$.

Sample 2

Input	Output
2 1	6

Chef can obtain 1 green and 1 red orb, which gives him 6 skill.